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ABSTRACT

A research study in which 24 leading preservice teacher education textbooks are examined for degree of sex equity reveals a predominant attitude of imbalance and omission towards the role and contribution of females in American society and education. The textbooks are content analyzed for space allocation and treatment of sexism, sex differences characteristic in a learning environment, experiences and achievements of women, and total amount of text content awarded to males and females. Areas considered are general teacher preparation, psychology of education, foundations of education, and instructional methods for teaching social studies, reading and language arts, mathematics, and science. Recommendations are offered for unbiased textbook development. A list of the specific texts examined is included. (LH)

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BEYOND PICTURES AND PRONOUNS:

SEXISM IN TEACHER EDUCATION TEXTS

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Although professional awareness of sex bias in education is increasing, there has been little systematic research to ascertain the extent to which attention to this issue has been integrated into the curricula of teacher preparation programs across the nation. One 1974 survey of schools and departments of education indicated that most pre-service teacher education faculty are not sufficiently knowledgeable about the provision of sex equity in education, and few courses are offered to enable prospective teachers to acquire knowledge and skills in this area (McCune & Matthews, 1975). The implication of this survey is that, as late as the mid 1970s, sex equity remained a marginal issue in our teacher preparation programs.

To provide a more current analysis of the treatment of sex equity in these programs, one based on the data source of professional texts rather than on the responses of teacher educators, a comprehensive study of widely used teacher education textbooks was conducted. Under funding from the Women's Educational Equity Act, twenty-four of the leading teacher education textbooks were content analyzed to determine how issues related to the provision of sex equity in education were portrayed. This paper will present an analysis of the research findings as well as their implications for teacher educators, authors, and publishers.

A basic assumption underlying this research is that professional texts are important to the way prospective teachers are prepared to work with children in classrooms. Zimet's literature review on the impact of written material suggests that the content of books does affect the attitudes and behavior of readers, both children and adults (1976). Consequently, what future teachers read in their education texts is likely to influence their knowledge, attitudes and behavior concerning the issue of sex equity in in education. These books can discuss the literature on sexism in schools

and on its potential impact on children. They can alert prospective teachers not only to the problem but also to existing legal remedies such as Title IX of the Higher Education Amendments of 1972. Further, they have potential for making pre-service teachers aware of curricular and instructional approaches that can be used to alleviate sex bias in the classroom. In contrast, if these professional books omit topics concerning the provision of sex equity, or if they offer stereotypic and imbalanced portrayals of females and males, they may reinforce or create biased attitudes and behaviors rather than eradicate them. The content of these professional books is crucial to effective and responsible teacher preparation.

The texts selected for content analysis were those most widely used in the core courses of most teacher education programs across the nation: foundations or introduction to education; psychology of education; and teaching methods in the five content areas of reading, language arts, mathematics, science, and social studies. Further, only texts published between 1973 and 1978 were studied. Since Title IX was enacted in 1972, and since research on and discussion about sex bias in education has been available in the literature since the late 1960s and early 1970s, it seemed reasonable to expect that the selected texts would include information on this topic.

Thirteen education editors of major publishing companies were asked to identify the most widely adopted teacher education texts in the seven areas designated above. Based on their responses, the 24 texts listed in Table A were selected for analysis. Several of these texts received unanimous selection by the editors, and they appear to dominate the market in their respective fields. In other cases, the market evidently is fragmented by the education editors as best sellers in their fields.

TABLE 1

TEACHER EDUCATION TEXTS SELECTED FOR CONTENT ANALYSIS

Foundations or Introduction to Education

James Johnson, Harold Collins, Victor Dupuis, and John Johansen. Introduction to the Foundations of American Education. 3rd Edition. Boston: Allyn & Bacon, 1976.

Robert Richey. Planning for Teaching. 5th Edition. New York: McGraw-Hill, 1973.

Kevin Ryan and James Cooper. Those Who Can, Teach. 2nd Edition. Boston: Houghton Mifflin, 1975.

William Van Til. Education: A Beginning. 2nd Edition. Boston: Houghton Mifflin, 1974.

Psychology of Education

Robert Biehler. Psychology Applied to Teaching. 3rd Edition. Boston: Houghton Mifflin, 1978.

N.L. Gage and David Berliner. Educational Psychology. Chicago: Rand McNally, 1975.

Thomas Good and Jere Brophy. Educational Psychology: A Realistic Approach. New York: Holt, Rinehart & Winston, 1977.

Methods of Teaching Reading

Martha Dallmann, Roger Rouch, Lynette Chang, and John Deboer. The Teaching of Reading. 4th Edition. New York: Holt, Rinehart & Winston, 1974.

Delores Durkin. Teaching Them to Read. 2nd Edition. Boston: Allyn & Bacon, 1974.

Robert Karlin. Teaching Elementary Reading. 2nd Edition. New York: Harcourt Brace Jovanovich, 1975.

George Spache and Evelyn Spache. Reading in the Elementary School. 4th Edition. Boston: Allyn & Bacon, 1977.

Miles Zintz. The Reading Process. 2nd Edition. Dubuque, Iowa: Wm. C. Brown, 1975.

Methods of Teaching Language Arts

Paul Burns and Betty Broman. The Language Arts in Childhood Education. 3rd Edition. Chicago: Rand McNally, 1975.

Sara Lundsteen. Children Learn to Communicate. Englewood Cliffs, New Jersey: Prentice Hall, 1976.

Walter Petty, Dorothy Petty and Majorie Becking. Experiences in Language. 2nd Edition. Boston: Allyn & Bacon, 1976.

Dorothy Rubin. Teaching Elementary Language Arts. New York: Holt, Rinehart & Winston, 1975.

Methods of Teaching Science

Glenn Blough and Julius Schwartz. Elementary School Science. 5th Edition. New York: Holt, Rinehart & Winston, 1974.

Peter Gega. Science in Elementary Education. 3rd Edition. New York: John Wiley, 1977.

Mary Budd Rowe. Teaching Science As Continuous Inquiry. 2nd Edition. New York: McGraw-Hill, 1978.

Methods of Teaching Mathematics

Foster I. Grossnickle and John Reckzeh. Discovering Meanings in Elementary School Mathematics. 6th Edition. New York: Holt, Rinehart and Winston, 1973.

James Heddens. Today's Mathematics. 3rd Edition. Chicago: Science Research Associates, 1974.

John Marks, C. Richard Purdy, Lucien Kinney, and Arthur Hiatt. Teaching Elementary School Mathematics for Understanding. New York: McGraw-Hill, 1975.

Methods of Teaching Social Studies

John Jarolimek. Social Studies in Elementary Education. 5th Edition. New York: Macmillan, 1977.

John Michaelis. Social Studies for Children in a Democracy. 6th Edition. Englewood Cliffs, New Jersey: Prentice Hall, 1976.

A comprehensive content analysis instrument and raters manual were developed, and a team of twelve raters was trained in their use. Each text was analyzed by at least two raters working independently. Inter-rater reliability was set at 85% agreement, and in those cases where this was not attained, a third rating was completed. The content analysis of all 24 texts took 12 months to complete.

The process included a line by line analysis of the entire narrative as well as the indices of each text to determine space allocation in five categories: Sexism; Experiences and Contributions of Females; Sex Differences; Total Content Concerning Males; and Total Content Concerning Females.[1] The number of males and females who were cited as authors in the footnotes and bibliographic entries were counted as were the number of females and males in the illustrations. Language usage was analyzed by counting the number of supposedly generic pronouns and nouns such as "he, mankind, forefathers, policeman" that were used in each text.

A major finding of the research was that teacher education texts are characterized by overwhelming, and, in some books, complete omission of information concerning the provision of sex equity in education. Of these 24 widely used texts, 23 allocated less than 1 percent of narrative space to the issue of sexism. One third of the books did not even mention the topic. Most of the texts characterized by total omission were in methods of teaching mathematics and science -- ironically, the very areas where girls are most likely to experience achievement difficulties. Not a single one of the texts analyzed offered pre-service teachers curricular or instructional approaches to counteract sexism as it may emerge in schools.

Before more detailed analysis of these texts is presented, it is pertinent to consider whether these patterns of omission are justifiable. Should teacher education texts include topics related to the provision of sex equity

[1]Brief descriptions of the content tabulated in these five categories are as follows:

Sexism: Topics specifically concerned with the nature and impact of sexism are included in this category as are topics concerned with redressing or counteracting this problem (e.g. sex bias in reading texts; annotated bibliographies of non-sexist books; discussion of Title IX).

Sex Differences: This area includes research studies and direct comparisons related to sex differences or similarities in such areas as intelligence, behavior, interests, abilities, motivation, talents, career aspirations, etc.

Experiences and Contributions of Females: Topics related to the contributions and experiences of individual females as well as females as a group are encompassed in this category (e.g. Maria Montessori; the dame schools; sex discrimination in employment).

Total Content Concerning Males: This category reflects the total number of pages allocated to males within the entire text narrative.

Total Content Concerning Females: This category reflects the total number of pages allocated to females within the entire text narrative.

It is important to draw a distinction between the category "Total Content Concerning Females" and the one entitled "Experiences and Contributions of Females." In order for a topic to be tallied in the category "Experiences and Contributions of Females," the topic had to contain information specifically pertinent to women, individually or as a group. However, no such requirement applied to the category, "Total Content Concerning Females," which included all content tabulated in "Experiences and Contributions of Females," as well as space referring to any female name, even if the entry offered no information specifically related to females. For example, even if the use of a female name was quite arbitrary--"A test was being given in in Ms. Washington's class"--the line was counted in the category "Total Content Concerning Females." However, such arbitary mention of a woman's name

[1](continued)

did not result in tabulation within the category, "Experiences and Contributions of Females." In contrast, discussion of the contributions of Emma Willard would be tabulated in both of these categories.

The content analysis instrument provided not only for determination of space allocation on issues related to sex equity, but also for qualitative measures of material on sex equity as well. Qualitative assessment was made on the following criteria: accuracy of information presented; balance and comprehensiveness of information presented; realism of information presented; non-stereotypic presentation of information; and integration of information throughout the entire text narrative. Raters were instructed to use direct quotations from the texts whenever possible to support and document all qualitative assessments.

The raters also counted the number of males and females who were cited as authors in the footnotes and bibliographic entries to determine whether the work of female researchers and theorists was utilized in preparation of these texts. Further, the ratio of females and males in illustrations was tabulated to assess whether visual presentations reflected an accurate sexual balance. Finally language usage was analyzed by counting the number of supposedly generic pronouns and nouns such as "he, mankind, forefathers, policeman" that were used in each text.

A major finding of the research was that teacher education texts are characterized by overwhelming, and, in some books, complete omission of information concerning the provision of sex equity in education. Of these 24 widely used texts, 23 allocated less than 1 percent of narrative space to the issue of sexism. One third of the books did not even mention the topic. Most of the texts characterized by total omission were in methods of teaching mathematics and science -- ironically, the very areas where girls are most likely to experience achievement difficulties. Not a single one of the texts analyzed offered pre-service teachers curricular or instructional approaches to counteract sexism as it may emerge in schools.

Before more detailed quantitative and qualitative analysis of these texts is presented, it is pertinent to consider whether these patterns of omission are justifiable. Should teacher education texts include topics related to the provision of sex equity in education? Is there a sufficient body of scholarly data concerning the way sexism operates in education and on the ways harm may be done female and male students? Are there strategies and curricular resources currently available that teachers may use to counteract ways that sexism may be in effect in our schools? Is the issue of sex equity of sufficient importance to be worth more than 1 percent of textbook space? To put these questions as well as the discussion of this study's findings in perspective, it is important to briefly survey some of the research and discussion that is now available concerning sexism in education.

Sexism in Schools: A Brief Overview

There now exists extensive documentation on differential school achievement patterns of female and male students. Girls appear to begin school with an academic edge, and they generally speak, read, and count sooner than their male counterparts. According to the National Assessment of Educational Progress, at age 9 males and females show fairly equal scholastic understanding in the areas of math, science, social studies and citizenship while girls display superior performance in the verbal skill areas of reading and the language arts. However, by age thirteen, females begin a decline in achievement which continues through age seventeen and into adult life. By adulthood the female-male achievement disparity in math is a staggering 10 percentage points, and the gap is almost as wide in the various science related fields. In contrast, difficulties in reading and language skills that males are most likely to exhibit in the early years do not persist as boys continue in school; by adulthood males and females appear to be performing equally in these areas (Puzzles and Paradoxes: Males Dominate in Educational Success, 1976).

Associated with differential achievement patterns is differential occupational goal and career selection. Academic difficulties in the areas

of math and science as well as stereotyping of these fields as male domains have resulted in female students selecting themselves out of advanced courses in these areas (Sherman & Fennema, 1977). In fact, math has been termed "the critical filter" which deprives girls of eventual access to a wide variety of potentially prestigious and lucrative careers in science, engineering, architecture and medicine. Vocational education is also characterized by stereotypic channeling of female students. Over half of all women enrolled in vocational education are in homemaking courses, another 30% are in office occupations, and 14% more are in other traditionally female fields (Steiger, 1974). Appallingly few girls are selecting those vocations that have traditionally been regarded as male and which currently offer them the best employment opportunities. One of the by-products of occupational stereotyping and channeling is the economic reality that a female with a college degree is likely to earn less money than a man with an 8th-grade education (Bureau of Labor Statistics, 1975).

Several studies indicate that female students also suffer a loss of self esteem as they "progress" through school. Although girls achieve higher high school grades than do boys, they are less likely to believe they have the ability to do college work (Cross, 1968). Another study concludes that even for women who reach college, characteristics traditionally associated with femininity are viewed as less desirable than characteristics traditionally associated with masculinity (McKee & Sherriffs, 1957).

There has been amassed substantial analysis of the forms in which sex bias may emerge in all areas of the school environment. Analysis of elementary and secondary texts show omission of females in both narrative and illustrations. For example, the Women on Words and Images studied 134 elementary school readers from sixteen different publishers and found that females are not equitably represented (1972). Weitzman and Rizzo identified

those texts most widely used in the content fields of science, mathematics, reading, spelling and social studies between 1967 to 1972. They focused their analysis on textbook illustrations and found that females comprised only 31% of textbook total. They also found that as grade level increased, representation of females decreased. Moreover, minority women suffered particular exclusion, for they were pictured only half as many times as minority males (1974).

Another form of textbook stereotyping involved occupations assigned to females and males. In their analysis of elementary readers, the Women On Words and Images tabulated 147 different occupations for males and only 25 for females (1972). DeCrow analyzed social studies series produced by ten publishing houses and found no women working outside the home except as teachers and nurses (1972). The Weitzman and Rizzo study of texts in six content areas disclosed that while men were shown in over 150 occupational roles, almost all women were portrayed as housewives (1974).

Other studies indicate that sex bias characterizes not only texts but the behavior of teachers as well. Research indicates that male students are more likely to be the salient members of classrooms as they receive a disproportionate amount of the teacher's active attention. While they receive more than their share of punitive controlling messages, they also acquire more praise and positive reinforcement (Jackson & Lahaderne, 1971). Serbin (Note 1) found that teachers interact with male students no matter where they are situated in the classroom while interaction with female students is dependent on close proximity to the teacher. Teachers are likely to give males detailed instructions on <u>how</u> to accomplish an assigned task. In contrast, rather than showing females how, teachers are likely to do it <u>for</u> them instead. Teacher reinforcement for males focuses on academic accomplishment; for females it emphasizes attractive appearance and good

behavior (Dweck, Note 2).

Research has also disclosed bias in counselor interactions and materials as well as in testing procedures (Tittle, McCarthy, & Steckler, 1974). Further, school staffing typically offers students imbalance in role models; for example, although women comprise 83% of the elementary school teachers and 46% of the secondary school teachers, they are only 13% of principals (U.S. Equal Employment Opportunity Commission, 1974).

Inequitable access to and treatment in athletics and physical education has also been extensively documented (Dunkle, 1976). Moreover, a new topic of investigation concerns the nature of compensatory programs which appear to focus heavily on reading and verbal skills, areas of greater difficulty for males; in contrast, compensatory programs appear to direct far less attention to math and spatial visualization skills, areas of greater difficulty for females (Sadker, Note 3).

Far more thorough discussion on sexism in education as well as new materials to help teachers counteract this problem are available in a variety of sources. It has been our intention through this brief sampling of the research to indicate that issues related to sex equity deserve the attention and concern of educators. They belong not on the periphery but within the core of pre-service teacher education programs, and they deserve significant discussion in professional texts. If texts allocate miniscule attention to these issues or ignore them completely, they may be abdicating, at least in part, their role in scholarly, responsible, and equitable teacher preparation.

Foundations of Education Texts

There were four foundations or introduction to education texts analyzed: Introduction to the Foundations of American Education (1976) by James Johnson et al.; Planning for Teaching (1973) by Robert Richey; Those Who Can, Teach

(1975) by Kevin Ryan and James Cooper; and Education: A Beginning (1974) by William Van Til. Anyone familiar with introduction to education texts such as these realizes that they face the burden of covering an enormous amount of information and a wide spectrum of topics. Typically, they attempt to orient prospective teachers to the profession, provide an overview of contemporary issues, discuss innovations in education, and suggest directions for the future. Frequently, they provide an historical overview which discusses outstanding past and present contributors to the field. Given such an overwhelming amount of material for potential inclusion, the process of selection becomes critical. This study indicates that in determining what should be included and emphasized, issues related to sex equity in education appear to be omitted entirely or at best given minor and incomplete treatment.

On the average, five times more space is allocated to males than to females in the pages of these introductory books. In the books by Richey and Van Til, there are eight times more pages discussing males than females while in the texts by Johnson et al. and by Ryan and Cooper, the content allocation ratio is 3 to 1. In the indices of these four books, there are many more males than females listed; the largest disparity occurs in Richey's text where the ratio is 39 to 1. The smallest index disparity is in the Johnson text where the ratio is 6 to 1. The footnotes and bibliographic citations reflect similar patterns of omission. The greatest disparity is in the Richey text where 11 times more male than female authors are cited. The smallest author imbalance is in Ryan and Cooper where the ratio is 6 to 1. In all four books, representation of females and males in the illustrations is relatively equitable.

When these texts discuss contemporary educational issues, it seems reasonable that they should include an accurate and thorough discussion of

sexism. In their discussion of history of education and of the work of noted educators, it again seems reasonable that the experiences and contributions of females should be reflected. Table 2 indicates that what seems reasonable does not occur.

The most space any text allocates to the topic of sexism is one half of 1 percent. Van Til barely alludes to the topic while Richey's attention to the issue involves discussion of the pros and cons of a dual salary scale, one which pays women teachers less than their male counterparts. On the more positive side, the texts by Johnson et al. and by Ryan and Cooper do present some discussion of sexism.

In a one and a half page section entitled "Women", the Johnson text discusses sex discrimination in employment and forces for change including such organizations as the National Organization for Women and the Women's Equity Action League. Unfortunately, the focus is almost entirely on sexism in society at large, and the only relation to education occurs in a brief mention of Title IX.

Ryan and Cooper's Those Who Can, Teach does focus on the issue of sexism in education. In a two-page section entitled "Sexism and Sex-Role Stereotyping" there is discussion of bias in books, counseling, and educational administration. Discussion of bias in other areas of education is not presented, and there is no mention of Title IX or of strategies that teachers can use to counteract the existence of sexism in schools. The section concludes as follows:

> The elimination of sexism and sex-role stereotyping in schools will be a complex procedure that will require the cooperation of teachers, administrators, school boards, counselors, educational publishers, and parents. Your role as a teacher will be especially important. As you interact with your pupils and as you select and

TABLE 2

Foundations and Introductory Education Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of INDEX Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of CONTENT Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Johnson et al.	0.8%	0.6%	0.1%	3.0%	0.3%	0.1%
2. Richey	0.3%	0.4%	0.3%	0.3%	0.3%	0.2%
3. Ryan & Cooper	0.4%	0.9%	0.2%	2.0%	0.5%	0.1%
4. Van Til	0.6%	0.7%	0.1%	1.0%	0.2%	0.2%

> use instructional materials, your sensitivity to this problem will help determine the attitudes of our future generations. Hopefully, educators will lead in efforts to evaluate school policies, curriculum and practices with regard to sex bias and will eliminate sexist discrimination (along with racial and ethnic discrimination) in our schools. Remember, if you're not part of the solution, you're part of the problem.
>
> (p. 348)

If either future or experienced teachers are to counteract sexism, they need to know of the resources that are available to them and of the curricular and instructional strategies they can employ within school and classroom. This concluding call to action does not include sufficient detail or explanation and consequently leaves prospective teachers without clear direction and without specific strategies they can implement.

Obviously education is a field which has always relied on the efforts of women. One would expect that if a text discusses individuals who have made notable contributions to the field, the contributions of outstanding women would be represented. Such representation does not take place.

When Van Til's text discusses leaders in education, only white males are mentioned -- Socrates, Plato, Aristotle, Comenius, Rousseau, Pestalozzi, Herbart, Froebel, Parker, Kilpatrick, Counts, Bode and Dewey. Richey's Planning for Teaching tells of the men cited above as well as Vergerius, Locke, James, Bagley, Conant, Hutchins, Bruner, Piaget, Gagne, and Bloom. Women who have made outstanding contributions, for example Emma Willard, Catherine Beecher, Sylvia Ashton Warner, and Maria Montessori are not mentioned. In terms of scholarly perspective and balance, it seems legitimate to question why Vergerius is more worthy of mention than is Montessori.

Not only are individual female contributions slighted, but their collective efforts are ignored as well. One gets no sense from any of

these books that women have played an enormous role in education. In fact, comments in the Van Til text actually serve to belittle their commitment and professionalism. In the very first chapter of his book, he comments on why some people choose to teach. He attributes the following reasons to female students: "It's a good job for a married women" (p. 10). "My fiance and I will be married following graduation. I'll teach to support us while he goes to graduate school" (p. 10). "I'll teach until I get the degree I am really after ...Mrs." (p. 5).

The real history of education is notable not only for the contributions of women but also for the discriminatory experiences they have suffered. Throughout the development of education in this nation, women have struggled for equal access and equal treatment. In their historical presentations, not one of these books deals with the reality that half our children were denied the chance to learn. If the fact is mentioned at all, it is rationalized:

> As late as 1785 there were only two Latin Grammar Schools existing in Boston, and the combined enrollment in these two schools was only sixty-four boys. Girls did not attend Latin Grammar Schools simply because colleges at that time did not admit girls; inasmuch as colleges existed largely to prepare ministers, it is understandable that they did not admit girls.
>
> (Johnson, et al. p. 315)

Clearly, there is need for more attention to the issue of sex equity in foundations of educations texts. Otherwise future teachers will be provided an inaccurate and imbalanced introduction to their field of study and to their profession.

Educational Psychology Texts

Two of the texts analyzed, Biehler's Psychology Applied to Teaching (1978) and Gage and Berliner's Educational Psychology (1975) were selected by all the editors as dominating the educational psychology market. The third text analyzed, Good and Brophy's Educational Psychology: A Realistic Approach (1977) was one of several other texts that appear to share the remainder of the educational psychology market.

In all three educational psychology texts there is a greater amount of space allocated to males than to females. The texts by both Biehler and Gage and Berliner spend six times more space on males than on females. There are 27 identifiable male names listed in the Biehler index while not a single woman is listed. The ratio of male to female names in the Gage and Berliner index is 18 to 1 and in both of these texts there are four times as many footnotes and bibliographic citations by males as by females. Since the Good and Brophy text listed all names by first initials, a sex ratio of the index and the bibliographies was not undertaken. In these three texts, the representation of males and females in illustrations is fairly equitable with males being presented slightly more frequently.

Table 3 reflects the percentage of the index and the percentage of total narrative for these texts in the five categories analyzed. All three of the texts include sections on sexism, and all three take the philosophical position that sex role stereotyping is harmful to children and should be reduced. However, only one of these books allocates more than 1 percent of total content space to this issue. In fact this text, Gage and Berliner's Educational Psychology, is the only book of all 24 analyzed that attributes over 1% of content space to the topic, and of all the texts analyzed this one presents the most cogent analysis of sexism in schools. However, even this text is characterized by some

TABLE 3

Educational Psychology Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of INDEX Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of CONTENT Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Biehler	0.3%	0.7%	1.0%	2.7%	0.3%	0.6%
2. Gage & Berliner	0.6%	1.0%	1.0%	0.7%	1.7%	1.3%
3. Good & Brophy	0.2%	0.3%	0.9%	0.3%	0.6%	0.6%

disconcerting lapses in perspective. For example, Gage and Berliner discuss the issue of sexism in language, and they even quote a significant excerpt from the Scott Foresman guidelines for non-sexist language. However, in their own text, the authors fail to implement the guidelines, and they frequently use male oriented nouns and pronouns such as "he" and "mankind" to represent all people.

The Biehler text offers the most inconsistent position on the issue of sexism. In the .3% of content space devoted to this issue, the dominant tone appears to be one of support for sex equity. However, this position is undermined in several ways. For example, Biehler offers a non-stereotyped illustration of a woman repairing telephone lines; the photograph caption reads, "The increasing tendency for women to do what was formerly 'men's work' has many advantages, but it may contribute to role confusion" (p. 204). This is the book's only illustration on changing occupational roles for women. Considering all the possible comments on increased participation of women in the salaried labor force, this particular caption appears to be gratuitously negative.

Inconsistency in point of view is reflected in the Biehler text narrative. Biehler spends quite a bit of space expressing concern over athletic competition between girls and boys. He creates the image of an "early maturing" girl reducing a boy to "ignominius" defeat in tetherball competition, and he worries about a phyrric victory that can lead to role confusion for the winning female who is not "petite" and "demure" and who goes counter to society's expectations. Further, he notes that if she is a "budding feminist, her triumph may be short-lived because her victim is likely to surpass her in size in a few years" (p. 184). Biehler's ultimate conclusion is that a female will have self-esteem problems "unless she adjusts to the idea of being the star of all-girl athletic teams" (p. 184).

Given the minute amount of space this text allocates to the issue of sexism, and given all the potential information that could be discussed, it is unfortunate that the author becomes so caught up in the rough and tumble world of tetherball. It is also unfortunate that the concept of individual difference is lost in the stereotyped assumption that athletic defeat must be the fate of female competitors.

All three of the educational psychology texts offer discussion of sex differences. As with the issue of sexism, Gage and Berliner present the most comprehensive treatment. These authors put the issue of sex differences into perspective by helpful introductory comments. They note that sex differences may be exaggerated by the research literature since studies indicating the existence of such differences are more likely to be published than are those in which no differences are found. Gage and Berliner also note that the range of individual differences within each sex is in fact greater than the range of differences between the sexes. Despite this rational introduction, some of their later conclusions are puzzling. For example, Gage and Berliner state that "females are more conforming and suggestible than males" (p. 426). This conclusion runs counter to Maccoby and Jacklin's exhaustive review of the literature in The Psychology of Sex Differences (1974) which indicates that the belief in greater suggestibility and conformity among girls is a "myth" (p. 349).

Occasionally conclusions reached by these three texts differ not only from The Psychology of Sex Differences but also from each other. For example, Gage and Berliner discuss higher male achievement in math in terms of the pressures of sex-role stereotyping. The Biehler text indicates that male ability to concentrate on tasks without being distracted by background information leads to male superiority in mathematics. Good and Brophy do not even mention the issue of sex differences in math, but

they spend several pages discussing boys' difficulties in reading.

A topic that recieves particularly imbalanced treatment by educational psychology texts is that of achievement motivation. Typically they offer extended discussion of studies conducted by male researchers with all male subjects, implying that achievement motivation is a male domain. Gage and Berliner discuss the role of mothers in developing the achievement motivation of their sons. They do not mention the role mothers may play in developing achievement motivation in their daughters. And the role of fathers in this process is omitted entirely.

Overall, texts in educational psychology convey a basic tone of support for sex equity in education. However, in all three books more extensive treatment of this subject seems warrented. Further, it appears that more attention should be paid to the accomplishments of female scholars and researchers. Imbalance in treatment surfaces repeatedly. For example, Good and Brophy offer a half page photograph, two colors of ink and several pages of narrative to Joseph McVicker Hunt's work on human motivation. In contrast, the text gives only a brief citation and footnote to Eleanor Maccoby's work on sex differences. Finally, these educational psychology books need to present more thorough and balanced discussion of the complex area of sex differences. Broad generalizations, partial explanations and inconsistent treatment may confuse prospective teachers as to what is myth and what is reality in this area, and may lead them to apply misinformation to classroom practice.

Social Studies Methods Texts

Two texts, Jarolimek's Social Studies in Elementary Education (1977) and Michaelis' Social Studies for Children in a Democracy: Recent Trends and Developments (1976) were selected by all the education editors as having

captured the social studies methods textbook market. In the Michaelis text the ratio of content allocated to males and females is approximately 2 to 1. The content ratio in Jarolimek is in direct contrast to the typical pattern reflected in most of the texts analyzed; this author allocates twice as much space to females as to males. In both texts, there are twice as many index listings for males and twice as many footnote and bibliographic citations by males than by females. The representation of females and males in illustrations in both texts is relatively equitable.

Both of these texts are characterized by a tone that reflects sensitivity to and moral support for women's educational equity. Unfortunately, as Table 4 reflects, this sensitivity is not buttressed by substantive attention to the issue. Both texts afford less than 1% of their content to either the topic of sexism or the experiences and contributions of females.

Moreover, where the issue of sex equity is addressed, it is couched in vague generalities. For example, early in his text, Jarolimek comments:

> For a variety of reasons, the traditional roles of men and and women in society have undergone great changes in the second half of the twentieth century, resulting at long last in the emancipation of women. The independence of women, which without question is one of the most significant developments of our time, has many implications for social studies education in the elementary school.
>
> (p. 14)

Following these sentences are three brief paragraphs pointing out that schools have reinforced sex-role stereotyping and that there are significant contemporary changes in roles for women. However the text does not provide any detailed explanation as to why the new independence for women

TABLE 4

Social Studies Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of INDEX Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of CONTENT Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Jarolimek	0.4%	0.4%	0	0.8%	0.6%	0
2. Michaelis	0	0.1%	0	0.6%	0.3%	0.03%

"has implications for social studies education" or indeed what these implications are.

This superficiality in treatment also characterizes the Michaelis text. In his book, the issue is discussed under the caption, "Ethnic Studies, Equality for Women" and it is accorded only seven lines. In this miniscule amount of space the reader is urged "to make such values as freedom, equality, and justice equally applicable to all individuals regardless of sex" (p. 23). However, the prospective teacher is not offered resources or instructional approaches to accomplish this broad and lofty goal.

The social studies is a natural and rich content area for discussion of issues related to sex equity in education. Research shows that elementary and secondary school social studies texts tell children of a nation created, maintained, and led by men. Both future and experienced teachers need resources if they are to provide students with a more balanced and accurate assessment of both the past and the present. Many such supplementary resources are now available. However, while these social studies methods books offer extensive and specific discussion on making bulletin boards, developing units, and using color in maps, far less discussion is accorded the issue of sex equity. Surely it seems reasonable to assume that if it is important to provide specific instructions on bulletin boards, it must also be important to provide specific strategies for non-sexist teaching. Until these texts support their tone of moral commitment with comprehensive analysis of sexism, and the resources teachers can utilize to counteract this problem, they must be characterized as providing only surface gloss: a sensitivity without substance.

Reading and Language Arts Methods Texts

No texts appear to dominate the textbook market in reading and language arts; rather, a variety of texts are used in teaching methods courses in these areas. Five reading methods texts and four language arts methods texts were content analyzed. These nine texts are discussed in one section because to some extent both fields share similar content and because both areas are characterized by comparable issues in their treatment of sex equity in education.

The five reading methods texts analyzed were: Dallmann et al.'s The Teaching of Reading (1974)[2]; Durkin's Teaching Them to Read (1974); Karlin's Teaching Elementary Reading (1975); Spache and Spache's Reading in the Elementary School (1977); and Zintz's The Reading Process (1975). In these five texts, there is an average of over twice as much space allocated to males as to females. In the indices, the ratio of male to female names ranges from 1.5 to 1 in the Zintz text to 2 to 1 in the Dallmann text. The ratio of male to female authors cited in footnote and bibliographic entries averages slightly over 1.5 to 1. Representation in illustrations is very equitable except in the Durkin text where five male figures are depicted for every female shown.

The four language arts texts analyzed were: Burns and Broman's The Language Arts in Childhood Education (1975); Lundsteen's Children Learn to Communicate (1976); Petty et al.'s Experiences in Language (1976); and Rubin's Teaching Elementary Language Arts (1975). In terms of overall space allocation, authors cited in references, and figures in illustrations, these language arts texts are relatively equitable, although in all categories there is slightly more emphasis accorded males as compared to females.

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[2]A fifth edition of The Teaching of Reading (1978) was published after the 1974 edition had been content analyzed. Although the 5th edition was not formally content analyzed, it was read. From our reading it appears that on the issue of sex equity in education, the 1978 text offers no improvement over the former editi

As Table 5 indicates, there is scant attention to the issue of sexism in these books. Four of the nine texts do not even mention the issue. In the remaining five texts the percentage of space on sexism to total content ranges from a low of .02% to a high of .4%. In short, when these books do treat this topic, they spend a few sentences or at most a few paragraphs on it.

Such omissions is quite startling, for it is in the areas of reading and language arts that some of the most comprehensive research on sexism in curricular materials has been conducted. Several widely publicized content analysis studies have demonstrated patterns of omission and stereotyping in basal readers and children's literature. In fact, this research has played a major role in causing several major publishing companies to issue guidelines so that future children's reading material will treat both sexes more equitably and more realistically.

Even when the reading and language arts texts do mention these efforts, the treatment is woefully inadequate. For example, the Burns and Broman text, The Language Arts in Childhood Education, provides a two-page bibliography on "Black Literature," "American Indian Literature," and "Eskimo Literature." The text provides no bibliography for non-sexist literature. In the four sentences Burns and Broman spend on sexism in children's literature, they refer to only one resource for teachers to use if they wish to avoid sexist material.

Lundsteen spends two paragraphs on sexism in children's literature. Her second paragraph attempts to answer the question, "What can the teacher do:"

> Again, seek a balanced selection of books. Active female protagonists are appearing more and more in new, quality books for children. Select books that emphasize achievements of both men and women. Discuss the sexist elements of our language and books when they appear in the classroom. Otherwise the teacher

TABLE 5

Reading and Language Arts Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of INDEX Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of CONTENT Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
Language Arts						
1. Burns & Broman	0.3%	0	0	2.4%	0.04%	0.09%
2. Lundsteen	0	0.1%	0	0.7%	0.10%	0
3. Petty, Petty & Becking	0	0	0	0.7%	0.00%	0.06%
4. Rubin	0	0.4%	0.6%	2.0%	0.40%	0.70%
Reading						
1. Dallmann et al.	0	0	0	3.2%	0	0.08%
2. Durkin	0.3%	0	0	1.1%	0.02%	0.02%
3. Karlin	0	0	0.2%	1.4%	0	0.20%
4. Spache & Spache	0	0	0.6%	5.3%	0.20%	0.50%
5. Zintz	0.8%	0	0.2%	6.2%	0	0.60%

> and the material will convey to the child the impression that the demeaning of women is socially acceptable, is an unavoidable reality, rather than a form of prejudice or a lack of sensitivity.
>
> (p. 197)

There are hordes of new children's books that appear each year, and it is unrealistic to expect a beginning teacher to sort through them in search of active female protagonists. It is difficult and challenging to discuss sexism in language and literature with elementary school children. Given these conditions, prospective teachers need specific resources and instructional strategies they can employ in the classroom. Lundsteen's vague generalities offer teachers little actual help. There are resource lists, lessons, units, and instructional approaches that have been developed to counteract sexism in language and literature, but not one of these nine texts adequately informs future teachers of them.

Data from the National Assessment of Educational Progress indicate that male students are more likely to have difficulty in the area of reading, particularly in the elementary grades. Several of these methods texts do discuss sex differences in reading achievement. It is fascinating to look at some of the reasons these authors give for such differences. For example, Zintz attributes the superior reading performance of girls to the following factors:

> . . . 1) greater ability to sit still and do "sitting still" activities and 2) greater facility with language. Add to this the bland pre-primer reading one can do with eighteen or twenty basic sight words and a woman teacher who may emphasize female values and the girls <u>do</u> have an advantage.

Durkin has suggested that if first grade teachers could liven up beginning reading with stories about jet planes, and how

> they work, or rockets and the boosters they need to get into space, boys would probably fare much better. (p. 214)

Spache and Spache offer the following reasons for boys' difficulties in reading: "the attitudes of women teachers toward boy pupils, the socially conforming attitudes of American girls" (p. 150), and a male personality style characterized as "more aggressive; less conforming; lower frustration level for boredom and monotony; more inner directed reading to find out, not just to please the teacher . . ." (p. 263).

While it is important that these texts discuss problems boys may be likely to experience in reading, these discussions are characterized by stereotypic and patronizingly offensive portrayals of female students and teachers. Surely one must question the implication that dull reading materials and boring activities are more acceptable for female than for male students. Moreover, research indicates that whether the teacher is male or female does not appear to have significant impact on the reading performance of boys (Asher & Gottman, Note 4).

A sex difference issue that six of the nine texts discuss concerns reading preferences. A clear division between what boys and girls like to read is made, and the description of this separation is often broadly stereotypic. For example, Dallmann et al. inform future teachers:

> Boys show interest in action and aggressiveness, in the affairs of the world and therefore prefer adventure, science, hero stories, biography, history, and tall tales, while girls still cling to the fanciful stories, myths, stories of chivalry and romance, home life, biography, and accounts of everyday life, though not always in that order. Boys will not choose a book, ordinarily, that has

> the name of a girl in the title, but girls will choose a boy's book.
>
> (p. 370)

Petty, Petty and Becking note that "boys scoff at love and avoid books in which the principal character is feminine" (p. 376). Burns and Broman comment:

> Boys prefer stories of science, invention, and vigorous action .... Girls will read a book considered to be of interest to boys, but the reverse is seldom true.
>
> (p. 216)

Such conclusions are, for the most part, based on dated research. No contemporary research is cited, studies that might reflect changing patterns of reading preference based on emerging roles for women and men. Moreover, the discussion in these texts is presented without any regard for individual differences. While some boys may object to reading about female protagonists, others may not. While some boys select stories dealing with adventure or science, others prefer fanciful tales, mythology and stories about everyday life at home. Not all girls will placidly accept reading stories about male characters. The reality of reading preference reflects the reality of individual difference; informing teachers of sex stereotyped generalizations can only be misleading and deleterious to effective teaching.

Another disturbing aspect of these discussions is a tone which appears not only to accept sex stereotyped reading preference but even to condone it. The authors could offer instructional stretegies to help teachers expand the potentially limited and biased reading interests of their students. They could offer bibliographies of children's books about active, assertive and adventurous girls, characters that would capture the attention of both male and female readers. They could -- but they do not.

Instead they report dated research as they inform prospective teachers to expect that boys will object to books about girls. Fortunately, today it would be utterly unthinkable for a professional text to tell teachers that they should expect and accept white children's ridicule of books about black characters. However these professional books continue to overtly condone prejudice on the basis of sex.

Occasionally, discussion condoning sex biased reading preference is pushed to the ultimate conclusion. Although Dorothy Rubin's Teaching Elementary Language Arts warns teachers to "Be careful not to be caught up in stereotypes" such well-intentioned statements are contradicted by the following advice:

> However, what we know about children's attitudes toward choosing books should also be taken into account. For example, it has been found that boys will not read "girls books," whereas girls will read "boy books". Therefore, the ratio of"boy books" should be about two to one in the classroom library collection. Examples of"girl-type" books are Little Women by Louisa May Alcott and many of the Laura Ingalls Wilder books such as Little House in the Big Woods.
>
> (p. 191)

Sexist assumptions such as this have, indeed, resulted in the current imbalance of male to female characters in children's reading material, the inequitable ratios that have been documented in the content analysis research. Advising teachers to create a 2 to 1 imbalance in their classroom libraries can only be detrimental to both female and male students. It will deprive girls of the female role models they need to read about. It will deprive boys of one of the most valuable functions of literature, that of offering children the opportunity to become more understanding of others who may be

different from themselves. Moreover, if boys do not read books such as those written by Laura Ingalls Wilder, they will miss some of the finest literature available to elementary school children.

It appears that reading and language arts methods texts need to include far more information on sex equity in education. They must replace stereotyped assumptions with contemporary research and methodology. Until such changes are made, these texts may serve to encourage sex role stereotypes rather than to eradicate them.

Mathematics and Science Methods Textbooks

Three mathematics methods texts and three science methods texts were analyzed for their treatment of sex equity in education. The books in these two content areas are discussed together because they reflect similiar patterns of bias and because the issues of concern in each case are similiar.

The three texts analyzed in mathematics were Grossnickle and Reckzeh's Discovering Meanings in Elementary School Mathematics (1973); Hedden's Today's Mathematics (1974); and Marks et al.'s Teaching Elementary School Mathematics for Understanding (1974). For these three books, the average ratio of space allocated to males as compared to females is 1.5 to 1. There is an average of two times more male than female names listed in the indices and four times as many male authors included in footnote and bibliographic citations.

The three texts analyzed in science were Blough and Schwartz' Elementary School Science and How to Teach It (1974); Gega's Science in Elementary Education (1977); and Rowe's Teaching Science as Continuous Inquiry (1978). All three books reflect a severe imbalance in space allocation, with an average of over seven pages discussing males for every page discussing females. The greatest imbalance is in Gega's text, with a

12 to 1 ratio, and the least in Rowe's text, where the ratio is 3 to 1. A similar imbalance is reflected in the indices. In the Blough text, for example, the ratio of male to female names is 21 to 1, and in the Gega text, it is five to one. A ratio of male-female index listings was not computed for Rowe's text because of the author's use of initials rather than first names. In all three books, there are two times more male than female authors cited in both footnotes and bibliographies.

Currently, there has been a great deal of research attention to the math achievement disparity between females and males, to the stereotyping of math as a "male domain" and to the development of innovative curricula to help reduce math anxiety and avoidance and to encourage girls to take courses and explore careers in this area. However, as Table 6 indicates, not one of the math methods textbooks makes any reference to sexism in education; not one mentions girls' potential difficulties in math or curricular and instructional approaches for alleviating them. In fact, the only text that refers to sex differences simply notes that at the elementary level both girls and boys express positive attitudes towards mathematics.

Science methods texts also pay scant attention to sex differences in science achievement, despite findings such as the following from the National Assessment of Educational Progress (Puzzles and Paradoxes, 1976).

> On a variety of (science) exercises, the 1972-73 results for females can only be considered incredible. While 70 percent of the 13-year-old males knew that the use of a compass is related to the earth's magnetic field, only 54 percent of the females answered correctly. On an exercise dealing with alternating and direct current, 13 percent fewer 17-year-old females than males knew the answer in 1969-70. In the second assessment, this

TABLE 6

Math & Science Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of INDEX Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of CONTENT Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
Math						
1. Gross-nickle & Reckzeh	0	0	0	0.3%	0	0.1%
2. Heddens	0	0	0	0	0	0
3. Marks et al.	0	0	0	0	0	0
Science						
1. Blough & Schwart	0.2%	0	0	0.40%	0	0
2. Gega	0	0	0	0.09%	0	0.10%
3. Rowe	0	0.006%	0.01%	1.20%	0.03%	0.05%

difference has increased to 18 percent.
(p. 12)

Only Rowe's text mentions difficulties female students may experience in science. In her 500 page text, she accords the following two paragraphs to this topic in a section titled, "A Special Handicap."

> Girls at all socioeconomic levels act with respect to science as though they were handicapped. They know less, do less, explore less, and are prone to be more superstitious than boys. It is tempting to speculate that one reason so little science is being given to the groups who most need it may be related to the feeling of low confidence so many women have when it comes to science. Wouldn't it be too bad if our children were kept in a deficit condition because many of their teachers do not know or understand what the treatment could accomplish for them?
>
> We are the doctors who must fight for help while it can still do some good for the handicapped. The research suggests what we must do; why don't we? (p. 69)

It is unlikely that Rowe's comment that girls "know less, do less, explore less, and are prone to be more superstitious than boys" will give future teachers sufficient and accurate perspective on the nature of sex differences. It is also unlikely that these two paragraphs provide sufficient discussion of the "treatment" so that future teachers will be able to correct this "deficit condition." Even though these two paragraphs are superficial and possibly even misleading, it must be noted that the Rowe text is the only one of the six that at least recognizes the existence of a problem.

Of all the areas of teacher education studied, the texts in science and math as a group reflect the least sensitivity to sex equity in education. These books must make major changes if they are to assume their responsibility for preparing teachers who will help all our children achieve in the areas

of math and science -- our daughters as well as our sons.

Conclusions

If the 24 widely used professional texts analyzed in this study in some measure reflect teacher education curriculum, then the thousands of prospective teachers who graduate each year from colleges and universities are not gaining adequate information or skills concerning sex equity. Omission is the form of bias that most characterizes these texts. Only four texts allocate over one-half of 1% of their content to the topic of sexism. One third of the texts do not mention it at all. Over half the texts do not accord as much as 1% of their content to the experiences and contributions of females.[3] Even when texts do treat these topics, there are often problems of inaccuracy, reliance on dated research, imbalance in perspective, and conclusions and implications that are stereotypic and biased.

Such problems are further intensified by bias in language usage. Twenty of the texts analyzed used supposedly generic pronouns or nouns such

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[3]Even these miniscule figures may be inflated; since there was some overlap in the categories sexism, sex differences, and experiences and contributions of women, there were times when raters could not make precise distinctions concerning which category to assign text narrative. In these cases, they tabulated the information under dispute in all categories that appeared pertinent. It was determined that this process of occasional "double or triple counting" was more rational than arbitrarily assigning the content to a single category. The result, however, is that this study may attribute higher space allocation to issues of sex equity than is actually the case in these texts.

as he, man, and mankind to refer to all people. A few of the texts inserted disclaimers for this usage. For example in Teaching Elementary School Mathematics for Understanding, the authors, Marks et al., comment, "For the sake of easier reading, instead of writing he/she, it is understood that the pronoun he refers to boys and girls" (p. 13). There is a good deal of literature to suggest that the issue goes far beyond facility in reading to the way language may shape the actual direction and content of text narrative. The Houghton Mifflin guidelines, Avoiding Stereotypes (1975) quote the linguist, Benjamin Whorf:

> Language is more than a reflection of the structural arrangements in society; it is intimately linked to the creation and perception of reality itself. Eliminating biased terminology is one concrete way to change and to correct the way we view ourselves and others. (p. 5)

The math text noted above presents an excellent example of the subtle way this creation of a biased reality may occur. The authors of this text present the following discussion of sets:

> Many experiences with sets may be identified in the life of the young child. He and his brother have matching sets of toy soldiers; his set of eating utensils has fewer members than his parents set; he joins his set of blocks with his friend's set to build a big castle; he leaves a game taking his set of marbles with him; his set of fingers and toes match exactly; he loses a wheel off his toy car and finds fewer wheels in this set than in the set of wheels for another car; he counts the members of sets to find how many there are; in playing with his dump truck, tractor and crane, he finds this set of toys has three members regardless of the order in which he counts. (p. 39)

Use of the supposedly generic he and his generates male imagery. This results in a context that has room for toy soldiers, blocks, marbles, cars, dump trucks, tractors and cranes but not for dolls, crayons, coloring books, jump-ropes or jacks. By the paragraph's conclusion, the universal child identified in the first sentence emerges as a male. The use of supposedly generic terms may go beyond shaping text content so that the prototypic child or human being is seen as male. To push the implication a bit further, it may also affect the selection of information and result in content that notes the contributions of Vergerius but omits those of Maria Montessori, that leave out the issue of sexism and the educational history of half the population.

One area studied, that of pictorial representation, is not characterized by omission and imbalance. In most of the texts analyzed, the number of male figures in illustrations is equal to or only slightly greater than the number of females. It is interesting to consider possible reasons for this greater equity in text illustrations. One explanation is that publishing companies usually handle the illustration phase of book production. Most of these companies attempt to follow the non-sexist guidelines they have issued and, therefore, may be more sensitive to sex equity than are their authors. Another explanation may be related to the fact that illustration programs in most of the books analyzed were comprised of photographs of actual school life. Consequently, these photographs are more likely to reflect the real world in which both girls and boys are present in our nation's classrooms. It is worth noting that when illustrations were comprised of line drawings, images based on an artist's conception of reality, they were far less equitable in depiction of females and males than were the photographs. Yet another explanation may point out that it is relatively easy for authors and publishers to include an equitable illustration program

in order to give books a fresh look and contemporary appeal. In contrast, it is far more challenging to respond to sex equity throughout the actual content of text narrative. An optimist might conclude that these illustrations are harbingers of greater awareness and sensitivity; a pessimist might conclude that they merely represent the facade of equality.

Although this study focused on sex equity in teacher education texts, a line by line analysis of the treatment afforded racial and ethnic minorities was also conducted. While analysis of these groups was not as detailed as for women, it did attempt some preliminary assessment of textbook progress in this related area of educational equity, one which predated concern over sexism in our national consciousness. As one might expect, the data indicate that there is greater textbook treatment of issues concerning racial and ethnic minorities than of those concerning women. However, the surprising finding is that these groups continue to receive only a tiny percentage of book content. For example, in the foundations texts, the most treatment given to the topic of race/ethnic discrimination is 6% of total content; the least space allocation is 3 percent. In the psychology of education texts, the most treatment is 4% and the least .4%. In the areas of reading and language arts space allocation ranges from a low of .08% to a high of 6.8%. In the two social studies texts .9% and 2.3% of content are allocated to this topic. As with sexism, the math and science texts afford the least treatment. Four of the texts have no information on race/ethnic discrimination, and the most space a text accords to this topic is .3%. Overall, in half the texts analyzed, less than 1% of textbook content concerns the issue of race/ethnic discrimination. Further when information on this topic is included, it is sometimes based on dated references, and conclusions drawn have stereotypic and demeaning implications.

Most of these 24 texts describe the nature and impact of racism

in more depth than the nature and impact of sexism. However, considering the length of time this issue has been on our collective educational conscience, and the amount of research and the intensity of controversy and concern it has generated, this small amount of coverage is disheartening. We must conclude that, in many of these texts, prospective teachers are given little or no preparation for understanding and instructing children from diverse racial and ethnic backgrounds.

Recommendations

The data from our study point to necessary changes in our professional education texts. The documentation of pervasive omission suggests that these texts should allocate more space to balanced and accurate portrayal of contributions women have made both individually and collectively to the field of education as theorists, scholars, authors, practitioners, and innovators. There is now a comprehensive body of literature on which these texts can draw to document the accomplishments of women, including minority women of color. There is no scholarly reason why our professional texts should continue to omit educational leaders such as Mary McLeod Bethune, Elizabeth Blackwell, Prudence Crandall, Emma Hart Willard, Catherine Beecher, Mary Lyons, Jane McCurtain, Myrtilla Miner, Maria Mitchell, Elizabeth Peabody, M. Carey Thomas, Ella Flagg Young and many, many others from their pages.

It is also important that these texts provide comprehensive and accurate analysis of the barriers that have confronted women in attempts to gain access to and equal treatment in the educational process. In the 1800s women's educational struggle was for entrance into the university. A few centuries earlier their struggle was for the opportunity to learn to read and write. In 1687, the town council in Farmington, Connecticut voted money for a school "where all children shall learn to read and write English." However a qualification of this egalitarian statement noted that "by all children

it is to be understood that only male children will attend" (Matthews, 1976). This was but one sign of the times. Scholarly accuracy and perspective demand that our texts describe this segment of our educational history. Further, when major historical developments are discussed, a responsible text should note the implications for half the children of that time period. For example, if a text describes the educational opportunities provided by the Latin Grammar School, it should clearly specify that only boys were allowed to attend. And to offer a balanced historical portrayal of American education, texts should describe educational developments of pertinence to women such as the opening of the Troy Female Seminary and the emergence and the evolution of normal schools.

Any discussion of contemporary concerns in education cannot be considered complete without attention paid to the issue of sexism including bias in instructional materials, teacher expectations and interaction patterns, counseling materials and testing procedures, physical education, athletics, special education, vocational education and educational employment. The potential impact of sexism on students, males as well as females, should be noted as well as materials, programs and innovations that have been developed to counteract this impact. This article only begins to suggest the rapidly growing body of literature that has been amassed on this topic and is available for inclusion in professional education texts.

It appears imperative for texts in the methods areas especially to offer curricular and instructional approaches and resources that will enable prospective teachers to create classrooms that are free of sex bias. Vague exhortations to fight this problem do not give sufficient detail to make classroom implementation realistic. Rather, clear and specific resources will be necessary for beginning teachers, resources such as the following: non-sexist bibliographies pertinent to various fields; sample lesson plans and units;

instruments for assessing sex bias in curricular materials, classroom organization, teacher interaction patterns, and institutional policies. In particular, resources should be provided to help teachers break the "critical filter" and counteract the problems many girls experience in math and science.

Obviously discussion of all these topics should be based on the most current research available. This is particularly true in discussion of sex differences, an area where research and developments are being generated rapidly. Moreover, to provide adequate balance and perspective, such discussion should include analysis of factors that may create, reinforce or intensify potential sex differences. Further, these texts should emphasize the reality of individual difference so that prospective teachers will avoid generalizations and assumptions about female and male characteristics and abilities in the classroom.

As texts begin to include this information, it is important that they avoid segregating the material in separate inserts or sections. If it is not incorporated throughout text narrative, the implication may be that such material is a sidelight, an interesting diversion but not truly an integral and important part of education.

Text layout, design and illustrative material can also convey messages to prospective teachers about the meaning and importance of sex equity. If, as the saying goes, the medium is the message, it appears essential that our professional texts reflect equity in their visual presentation as well as their verbal statements. Finally, in terms of linguistic format, many publishing companies have issued guidelines with extensive sections on sexism in language and how to avoid it. It is hoped that future teacher education texts will make greater effort to close the reality gap between the publishers' guidelines and the publishers' books.

Most of our recommendations have greatest immediate implication for textbook publishers and authors. However, sometimes change is slow to come to the world of textbook publishing, and the 200,000 teachers who graduate each year from our colleges and universities will not wait for newer, fairer texts to become available in their university bookstores. It is the vital role of teacher educators to move sex equity from the periphery of teacher preparation to its core and mainstream. In this effort teacher educators can utilize supplementary resources, such as those provided in this article's annotated bibliography. They can include course objectives and activities related to the provision of sex equity in education. But whatever actions they choose to take, it is clear that to depend on the current state of teacher education textbooks is to perpetuate the restrictions of sex bias and stereotyping and to limit the potential of all our students.

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